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| EXAMINER |
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| RAIZEN, DEBORAH A |

| ART UNIT | PAPER NUMBER |
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| 2873 | |

DATE MAILED: 09/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/000,062 | ISHAK, ANDREW | |
| | Examiner | Art Unit | |
| | Deborah A. Raizen | 2873 | |

*-- The MAILING DATE of this communication appears on the cov r sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on *19 June 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) *24-40* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02Nov2001 (resubmitted 5Mar02)* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of Group Ir1 (ophthalmic lens with dielectric mirror) in Paper No. 7 is acknowledged.

2. Claims 24-40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 7.

3. The second restriction requirement of Paper No. 6 is withdrawn because some of applicant's arguments in traverse of the requirement are found persuasive. In particular, applicant asserts in the last four lines on page 1 that "the species Ir1:Ir2 and Ir1:IIr2 are ... not patentably distinct".

4. In summary, the claims remaining under consideration are claims 1-23.

### *Information Disclosure Statement*

5. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless

the references have been cited by the examiner on form PTO-892, they have not been considered.

***Specification***

The disclosure is objected to because of the following informalities:

The disclosure on page 7 that metallic oxide coatings are not dielectric coatings (lines 21 and 26) appears to contradict the disclosure on page 8 that titanium oxide (a metallic oxide) is a dielectric material.

Appropriate correction is required.

6. The use of the trademark CR-39® has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology. It should also be accompanied by the superscript ® or TM.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

***Claim Objections***

7. Claims 4, 12-16, 18, 19, and 21-23 are objected to because of the following informalities:

The limitation in claims 4, 15, and 19 that "said first and second [ophthalmic] layers are polycarbonate" appears to be inconsistent with the limitation in their respective base claims 3,

14, and 17 that the layers are CR-39®. The dependency should be corrected, or "are" can be changed to "comprise".

Claim 12 recite "said first layer of ophthalmic plastic," and claims 13-16 recite "said first and second ophthalmic plastic layers" even though base claim 10 refers to the layers as "a third layer blue-blocking amber-tinted ophthalmic plastic material" and "a fifth layer blue-blocking amber-tinted ophthalmic plastic material." The inconsistent terminology makes antecedent basis for the limitation unclear.

Claims 18 and 19 recite "said first and second layers," claim 21 recites "said first layer," claim 22 recites "said first and second CR-39® lenses," and claim 23 recites "said first and second ophthalmic plastic layers," apparently all in reference to the third layer and fifth layer of claim 17. Antecedent basis is unclear, especially in claim 21.

Claim 14 has the word "said" twice together.

Appropriate correction is required.

8. Claim 18 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 1-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 2-4, 7, and 9-16 include the feature of a blue-blocking amber-tint and claims 2-4, 7, 8, and 17-23 include the feature of a color-discriminating grey tint. The specification does not disclose the chemical name or structure of the blue-blocking amber tint and the color-discriminating grey tint, or the generic trade name, or a commercial source and identification of the tint, or a commercial source and identification for the tinted lens blanks. The specific tint is significant for optical performance, as shown by the spectra (especially Figs. 2 and 4) and explained in the specification on page 15, lines 18-23. In particular, choice of tint determines compatibility with the other materials of the lens and synergy in achieving the optical performance, especially a specified percent of light blocked at a specified wavelength range. Therefore, one skilled in the art would not be able to make the invention.

11. Claim 1, 5, and 6 include the feature "substantially 100% of UV-A & B light is absorbed to at least 400 nm". This feature requires a substance that absorbs light (in addition to the polarizing film, which only absorbs a portion of the light). Because the specification does not disclose what substance to use, one skilled in the art would not be able to make the invention.

12. Also, claims 1-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Base claims 1, 10, and 17 have the limitation "substantially 100% of UV-A & B light is absorbed" and claims 10 and 17 also have the limitation "at least 99% absorption of blue light". The specification indicates that much of the light is blocked by the dielectric mirror, primarily by reflection and interference. It is therefore not clear how the lens would absorb 100% of UV light and 99% of blue light. This problem might be overcome by substituting "blocked" for "absorbed", or by putting the limitation in terms of light transmitted.

13. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 3, 14, 17, 18, and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3, 14, 17, 18, and 22 contain the trademark/trade name CR-39® (the trademark of Pittsburgh Plate Glass Industries for ally diglycol carbonate). Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or

trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a type of plastic and, accordingly, the identification/description is indefinite.

***Claim Rejections - 35 USC § 102***

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

16. Claims 1 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Farwig (6,145,984). In regard to claim 1, Farwig discloses a sunglass lens (col. 1, line 13), comprising a dielectric mirror (col. 7, lines 58-64 disclose that the plastic lens is coated for tint-neutralization, and col. 5, lines 49-62 disclose that such a coating inherently includes a dielectric mirror) for reducing glare (this is functional language that does not imply an additional structural limitation, MPEP 2114) and overall light transmission (col. 7, lines 58-64 and col. 5, lines 49-62); a first layer ophthalmic plastic (col. 7, lines 45-50); a second layer ophthalmic plastic (col. 7, lines 45-50); a polarizing layer encapsulated between the first and second plastic layers (col. 7, lines 45-

50); whereby said layers are arranged to provide a balanced light transmission profile in which substantially 100% of UV-A & B light is absorbed (understood as "blocked") to at least 400nm (col. 2, lines 35-40: "full protection from UV" means that substantially 100% of UV-A & B light is blocked to at least 400 nm).

17. In regard to claim 8, in the Farwig sunglass lens, the first and second ophthalmic plastic layers are colorized with a color-discriminating grey tint (col. 7, lines 56-61 and col. 2, lines 34-46), and the average blue light transmission of the lens is less than 7% (col. 2, lines 39-40: full protection, meaning 0% transmission, from short-wave blue light, meaning 380-420 nm as shown by the disclosure in col. 1, lines 49-50 and in col. 3, line 54, that the blue transmission band is 420-460 nm, averaged with a disclosed 10% transmission in the region 420-460 nm, col. 1, lines 28-30, gives: [39 nm x 0% + 41 nm x 10%] / 80 nm = 5 %).

### *Claim Rejections - 35 USC § 103*

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. Claims 1-3, 5, 6, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sternbergh (5,694,240) in view of Johansen et al. (4,878,748). In regard to claim 1, Sternbergh discloses a sunglass lens (col. 1, lines 44-45), comprising a dielectric mirror (composite layer 3 in Figs. 1 and 2, col. 3, lines 6-13 and 45-67, col. 4, lines 45-46, and Table 1) for reducing glare (col. 4, lines 10-21; also, this is functional language that does not imply an additional structural

limitation, MPEP 2114) and overall light transmission (col. 3, lines 47-54); a first layer ophthalmic plastic (plastic substrate material, col. 1, line 44 and col. 5, lines 55-58); whereby said layers are arranged to provide a balanced light transmission profile in which substantially 100% of UV-A & B light is absorbed (understood as "blocked") to at least 400nm (col. 3, lines 45-54). Also, Sternbergh discloses that a wide range of materials may be used as the substrate, including those having unique or desirable spectral transmittance in the visible region (col. 5, lines 55-59).

20. However, Sternbergh does not disclose a second layer ophthalmic plastic and a polarizing layer encapsulated between the first and second plastic layers. Johansen discloses a second layer ophthalmic plastic and a polarizing layer encapsulated between the first and second plastic layers (Figs. 5-7 and col. 19, line 57 to col. 20, line 5). Furthermore, Johansen teaches that the polarizing layer has a synergistic effect with other light blocking means that provides protection to the retina (col. 17, lines 21-24 and col. 20, lines 8-11). Also, Johansen teaches that the second layer ophthalmic plastic, encapsulating the polarizing layer, is necessary to protect the polarizing layer (col. 17, lines 45-53). Therefore, it would have been obvious to one of ordinary skill in the art to use as the substrate in Sternbergh lens a lens that has a polarizing layer encapsulated between two layers of ophthalmic plastic, disclosed in Johansen, because such a polarizing layer would provide added protection to the retina, and because the second layer of ophthalmic plastic protects the polarizing layer, as taught by Johansen.

21. In regard to claim 2, Sternbergh discloses that the substrate may be colored (col. 5, lines 55-56), but does not disclose that it is colorized with high-contrast blue-blocking amber tint.

Johansen discloses a sunglass lens in which the first and second ophthalmic plastic layers are colorized (Fig. 6 and col. 19, lines 66-67) with a high-contrast (understood as sharp cut-on, col. 16, lines 3-16, col. 18, lines 42-51) blue-blocking (col. 18, lines 44-51, Fig. 3, and col. 20, lines 9-10) amber tint (combination dye 18, whose composition is specified in Fig. 3 and col. 20, lines 28-38 as consisting of a mixture of yellow and orange dyes, is amber colored; also, the composition specified for filters that cut on at longer wavelengths, col. 20, lines 51-62 produces a darker amber color). Furthermore, Johansen teaches that such a tint has the advantage of protecting the retina by absorbing blue light (col. 20, lines 8-11). The Sternbergh lens does not have means for blocking blue light (col. 2, lines 43-45), other than a substrate colored for desirable spectral transmittance in the visible region (col. 5, lines 55-59). Therefore, it would have been obvious to one of ordinary skill in the art to color the substrate of the Sternbergh with the high-contrast, blue-blocking amber tint of Johansen because it would provide further protection for the retina by absorbing blue light, as taught by Johansen.

22. In regard to claim 3, Sternbergh does not disclose that the plastic substrate is CR-39® plastic. Johansen discloses that the first and second layers are CR-39® plastic (col. 16, lines 30-35). Furthermore, Johansen teaches that CR-39® plastic has the advantage of allowing the lens to be easily dyed to provide the required wavelength blocking (col. 16, lines 35-39). Therefore, it would have been obvious to one of ordinary skill in the art to use CR-39® plastic as the plastic substrate for the Sternbergh in view of Johansen lens because it would allow easy dyeing to provide the required wavelength blocking, as taught by Johansen.

23. In regard to claim 5, in the Sternbergh sunglass lens the dielectric mirror comprises a multi-layered dielectric mirror (col. 3, lines 55-67 and Tables 1, 2, or 3).

24. In regard to claim 6, in the Sternbergh sunglass lens, the multi-layered dielectric mirror further comprises at least six thin film layers (col. 3, line 59) vacuum deposited (col. 4, lines 1-3: physical vapor deposition and chemical vapor deposition are types of vacuum deposition) atop the first layer of plastic (Table 3 in col. 5 discloses an embodiment in which the thin film layers C-1 to C15 are deposited directly on the substrate) for further reducing light transmission and glare (col. 3, lines 45-67 and col. 4, lines 10-28; also, this is functional language that does not imply an additional structural limitation, MPEP 2114).

25. In regard to claim 9, Sternbergh discloses that the substrate may be colored (col. 5, lines 55-56), but does not disclose that it is colorized with high-contrast blue-blocking amber tint. Johansen discloses a sunglass lens in which the first and second ophthalmic plastic layers are colorized (Fig. 6 and col. 19, lines 66-67) with a high-contrast (understood as sharp cut-on, col. 16, lines 3-16, col. 18, lines 42-51) blue-blocking (col. 18, lines 44-51, Fig. 3, and col. 20, lines 9-10) amber tint (combination dye 18, whose composition is specified in Fig. 3 and col. 20, lines 28-38 as consisting of a mixture of yellow and orange dyes, is amber colored; also, the composition specified for filters that cut on at longer wavelengths, col. 20, lines 51-62 produces a darker amber color). Furthermore, Johansen teaches that such a tint has the advantage of protecting the retina by absorbing blue light (col. 20, lines 8-11). Also, Johansen teaches that such a tint, when applied to the lens according the methods disclosed in Johansen, produces a

lens that substantially blocks over 99 percent of the incident radiation at each and every wavelength up to 500 nm (col. 15, lines 57-59, col. 16, lines 11-13, and col. 20, lines 39-44). Furthermore, the Johansen methods produce a lens that inherently has an average blue light transmission of less than 0.4%, which would be reduced further when combined with the Sternbergh lens.

26. The Sternbergh lens does not have means for blocking blue light (col. 2, lines 43-45), other than a substrate colored for desirable spectral transmittance in the visible region (col. 5, lines 55-59). Therefore, it would have been obvious to one of ordinary skill in the art to color the substrate of the Sternbergh with the high-contrast, blue-blocking amber tint of Johansen, which would produce a lens that has an average blue light transmission of less than 0.4%, because it would provide further protection for the retina by absorbing blue light, as taught by Johansen.

27. Claim 4, as understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Sternbergh in view of Johansen et al. and further in view of Gupta et al. (5,702,819). Although both Sternbergh and Johansen disclose that the lens substrate can be optical plastic, neither discloses explicitly that it is polycarbonate. Gupta discloses a multi-layered ophthalmic lens that comprises (as understood) polycarbonate (col. 2, lines 23-27) and that can be colored and coated (col. 7, lines 13-64). Furthermore, Gupta teaches that polycarbonates provide impact resistance (col. 1, lines 36-37). Therefore, it would have been obvious to one of ordinary skill in the art to form the lens of Sternbergh in view of Johansen with first and second layers that comprise

polycarbonate (as understood) because polycarbonate would provide impact resistance, as taught by Gupta.

28. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sternbergh in view of Johansen et al. and further in view of Evans et al. (6,220,703). Johansen does not disclose that polarizing layer is bonded between the first and second ophthalmic plastic layers. Evans discloses a lens in which a polarizing layer is molecularly (understood as chemically) bonded (col. 5, lines 1-53) between first and second ophthalmic plastic layers (col. 2, lines 51-54). Furthermore, Evans teaches that the molecular bonding has the advantage of improving adhesion (col. 1, lines 61-67, col. 2, lines 22-32, and col. 5, lines 1-7 and 17-20). Therefore, it would have been obvious to one of ordinary skill in the art to molecularly bond the polarizing layer between the first and second ophthalmic plastic layers of the Sternbergh in view of Johansen lens because the molecular bonding would improve adhesion, as taught by Evans.

29. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansen et al. in view of Sternbergh and further in view of Larson (6,334,680).

30. In regard to claim 10, Johansen discloses a sunglass lens, comprising: a third layer blue-blocking amber-tinted ophthalmic plastic material (Fig. 6 and col. 19, lines 66-67; col. 18, lines 44-51, Fig. 3, and col. 20, lines 9-10; combination dye 18, whose composition is specified in Fig. 3 and col. 20, lines 28-38 as consisting of a mixture of yellow and orange dyes, is amber colored; also, the composition specified for filters that cut on at longer wavelengths, col. 20, lines 51-62 produces a darker amber color); a fourth polarizing layer (Figs. 5, 6 and col. 19, line 57 to col.

20, line 5); a fifth layer blue-blocking amber-tinted ophthalmic plastic material (Fig. 6 and col. 19, lines 66-67; col. 18, lines 44-51, Fig. 3, and col. 20, lines 9-10); whereby said layers are arranged to provide a balanced light transmission profile optimum for use on the water (Fig. 3 and col. 21, line 33 to col. 22, line 23) in which substantially 100% of UV-A & B light (col. 15, lines 57-59, which defines substantially blocking as blocking over 99 percent of incident radiation at each and every wavelength, which in turn meets the limitation "substantially 100%"; col. 16, lines 11-13; col. 20, lines 39-44) is absorbed and with at least 99% absorption of blue light at up to 490 nm (col. 15, lines 57-59; col. 16, lines 11-13; col. 20, lines 39-44).

However, Johansen does not disclose a second layer dielectric mirror for further reducing light transmission and glare. Sternbergh discloses a layer that is a dielectric mirror for further reducing light transmission and glare (composite layer 3 in Figs. 1 and 2, col. 3, lines 6-13 and 45-67, col. 4, lines 45-46, and Table 1 col. 3, lines 47-54 col. 4, lines 10-21). Furthermore, Sternbergh teaches that such a dielectric mirror has the advantage of blocking ultraviolet radiation to provide eye protection while maintaining sufficient transmittance in the visible region (col. 1, lines 14-27). Therefore, it would have been obvious to one of ordinary skill in the art to provide a dielectric mirror, as disclosed by Sternbergh, on the Johansen sunglass lens because such a dielectric mirror would block ultraviolet radiation while maintaining sufficient transmittance in the visible region, as taught by Sternbergh.

Neither Johansen nor Sternbergh discloses a first layer hydrophobic overcoat for protection from seawater and smudging. Larson discloses a lens that has a first layer hydrophobic overcoat for protection from seawater and smudging (Fig. 13 and col. 1, lines 53-61). Furthermore, Larson teaches that such an overcoat has the advantage of making it easier to

clean the lens (col. 1, lines 53-61). Therefore, it would have been obvious to one of ordinary skill in the art to provide a hydrophobic overcoat on the lens of Johansen in view of Sternbergh because such an overcoat would make it easier to clean the lens, as taught by Larson.

31. In regard to claim 11, Sternbergh discloses that the dielectric mirror further comprises a multi-layered dielectric mirror (col. 3, lines 55-67 and Tables 1, 2, or 3). Furthermore, Sternbergh teaches that such a structure is necessary for reducing transmittance of UV radiation (col. 3, lines 55-56). Therefore, it would have been obvious to one of ordinary skill in the art to provide a dielectric mirror that has a multi-layered structure, as disclosed by Sternbergh, on the Johansen sunglass lens because such a dielectric mirror would block ultraviolet radiation, as taught by Sternbergh.

32. In regard to claim 12, Sternbergh discloses that the multi-layered dielectric mirror further comprises at least six thin film layers (col. 3, line 59) vacuum deposited (col. 4, lines 1-3: physical vapor deposition and chemical vapor deposition are types of vacuum deposition) atop said first layer of ophthalmic plastic (Table 3 in col. 5 discloses an embodiment in which the thin film layers C-1 to C15 are deposited directly on the substrate) for further reducing light transmission and glare (col. 3, lines 45-67 and col. 4, lines 10-28; also, this is functional language that does not imply an additional structural limitation, MPEP 2114).

Furthermore, Sternbergh teaches that a structure of at least nine alternating layers is preferred because it optimizes UV blocking (col. 3, lines 59-60 and col. 4, lines 30-36). Also, Sternbergh teaches that vacuum deposition is the method for making the dielectric mirror (col. 4,

lines 1-3). Sternbergh does not teach that the embodiment of Table 3 and col. 3, lines 14-27 is better than the embodiments of Fig. 1 and Tables 1 and 2. However, if the Sternbergh dielectric mirror is provided on the Johansen lens, the intervening absorbing layer of Tables 1 and 2 would not be necessary because the polarizing layer and tinted plastic layers of the Johansen lens perform the same function.

Therefore, it would have been obvious to one of ordinary skill in the art to construct the dielectric mirror of Sternbergh on the Johansen lens by vacuum depositing at least six thin film layers atop the first layer of ophthalmic plastic because that is the method for constructing such a mirror and because more than six layers provide optimum UV blocking, as taught by Sternbergh.

33. Claims 13, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansen et al. in view of Sternbergh and Larson and further in view of Evans et al. (6,220,703).

34. In regard to claim 13, Johansen, Sternbergh and Larson do not disclose that the polarizing filter layer is molecularly bonded between said first and second ophthalmic plastic layers to avoid haze and delamination. Evans discloses a lens in which a polarizing layer is molecularly (understood as chemically) bonded (col. 5, lines 1-53) between first and second ophthalmic plastic layers (col. 2, lines 51-54). Furthermore, Evans teaches that the molecular bonding has the advantage of improving adhesion (col. 1, lines 61-67, col. 2, lines 22-32, and col. 5, lines 1-7 and 17-20). Therefore, it would have been obvious to one of ordinary skill in the art to molecularly bond the polarizing layer between the first and second ophthalmic plastic layers of the Johansen in view of Sternbergh lens because the molecular bonding would improve adhesion, as taught by Evans.

35. In regard to claim 14, in the Johansen lens, the first and second ophthalmic plastic layers are CR-39® plastic (col. 16, lines 30-35).

36. In regard to claim 16, the first and second ophthalmic plastic layers are colorized with a high-contrast (understood as sharp cut-on, col. 16, lines 3-16, col. 18, lines 42-51) blue-blocking (col. 18, lines 44-51, Fig. 3, and col. 20, lines 9-10) amber tint (combination dye 18, whose composition is specified in Fig. 3 and col. 20, lines 28-38 as consisting of a mixture of yellow and orange dyes, is amber colored; also, the composition specified for filters that cut on at longer wavelengths, col. 20, lines 51-62 produces a darker amber color), and the average blue light transmission of the lens is less than 0.4% (Johansen discloses that such a tint, when applied to the lens according the methods disclosed in Johansen, produces a lens that substantially blocks over 99 percent of the incident radiation at each and every wavelength up to 500 nm, col. 15, lines 57-59, col. 16, lines 11-13, and col. 20, lines 39-44; furthermore, the Johansen methods produce a lens that inherently has an average blue light transmission of less than 0.4%, which would be reduced further when combined with the Sternbergh lens).

37. Claim 15, as understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Johansen et al. in view of Sternbergh, Larson, and Evans et al. and further in view of Gupta et al. Johansen and Sternbergh do not disclose that the ophthalmic plastic layers are polycarbonate. Evans discloses that one ophthalmic plastic layer is polycarbonate (col. 4, lines 30-32). Larson discloses that both ophthalmic plastic layers encapsulating a polarizing layer are polycarbonate (col. 5, lines 53-59). Gupta teaches that polycarbonates provide impact resistance (col. 1, lines 36-37). Therefore, it would have been obvious to one of ordinary skill in the art to form the lens

of Johansen in view of Sternbergh, Larson, and Evans with first and second layers that are polycarbonate, as disclosed by Larson, because polycarbonate would provide impact resistance, as taught by Gupta.

38. Claims 17, 18, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farwig (6,145,984) in view of Johansen.

39. In regard to claim 17, Farwig discloses a sunglass lens (col. 1, line 13 and Fig. 1), comprising a first layer hydrophobic overcoat (col. 5, line 65) for protection from seawater and smudging; a second layer dielectric mirror for further reducing light transmission and enhancing UV obstruction (col. 7, lines 58-64 and col. 5, lines 49-62; also, col. 6, line 47); a third layer color-discriminating grey-tinted ophthalmic plastic (col. 7, lines 45-50), a fourth polarizing layer (col. 7, lines 45-50), a fifth layer color-discriminating grey-tinted ophthalmic plastic (col. 7, lines 45-50); whereby said layers are arranged to provide a balanced light transmission profile optimum for use on the water in which substantially 100% of UV-A & B light is absorbed and with at least 99% absorption of blue light at up to 410 nm (col. 2, lines 35-40: "full protection" means substantially 100% blocking for UV and short-wave blue light; the disclosure in col. 3, line 54 that the blue transmission band is 420-460 nm shows that short-wave blue light extends to 420 nm).

However, Farwig does not disclose that the third and fifth layers are made of CR-39® plastic. Johansen discloses a sunglass lens in which the first and second plastic layers are made of CR-39® plastic (col. 16, lines 30-35). Furthermore, Johansen discloses that CR-39® plastic has the advantage of being easy to tint (col. 16, lines 35-39). Therefore it would have been

obvious to one of ordinary skill in the art to use CR-39® plastic for the third and fifth layers in the Farwig sunglass because CR-39® plastic is easy to tint, as taught by Johansen.

40. In regard to claim 18, which recites "the sunglass lens according to claim 17, wherein said first and second layers are CR-39® plastic," see the rejection of claim 17 above.

41. In regard to claim 23, in the Farwig sunglass lens, the first and second ophthalmic plastic layers are colorized with a color discriminating grey tint (col. 7, lines 56-61 and col. 2, lines 34-46), and the average blue light transmission of said lens is less than 7% (col. 2, lines 39-40: full protection, meaning 0% transmission, for short-wave blue light, meaning 380-420 nm as shown by the disclosure in col. 1, lines 49-50 and in col. 3, line 54, averaged with a disclosed 10% transmission in the region 420-460 nm, col. 1, lines 28-30, gives: (39 x 0 + 41 x 10) / 80 = 5 %.).

42. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Farwig in view of Larson and further in view of Gupta et al. (Johansen is unnecessary for the rejection because the limitation that the first and second layers are polycarbonate contradicts the limitation that the first and second layers are CR-39®). Farwig does not disclose that the first and second layers are polycarbonate. Larson discloses that both ophthalmic plastic layers encapsulating a polarizing layer are polycarbonate (col. 5, lines 53-59). Gupta teaches that polycarbonates provide impact resistance (col. 1, lines 36-37). Therefore, it would have been obvious to one of ordinary skill in the art to form the lens of Farwig with first and second plastic layers that are

polycarbonate, as disclosed by Larson, because polycarbonate would provide impact resistance, as taught by Gupta.

43. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farwig in view of Johansen and further in view of Sternbergh. In regard to claim 20, Farwig does not disclose that the dielectric mirror further comprises a multi-layered dielectric mirror. Sternbergh discloses that the dielectric mirror further comprises a multi-layered dielectric mirror (col. 3, lines 55-67 and Tables 1, 2, or 3). Furthermore, Sternbergh teaches that such a structure is advantageous for reducing the transmittance of UV radiation (col. 3, lines 55-56). Therefore, it would have been obvious to one of ordinary skill in the art to construct the dielectric mirror of the Farwig in view of Johansen sunglass lens as a multi-layered dielectric mirror, as disclosed by Sternbergh, because such a dielectric mirror would block ultraviolet radiation, as taught by Sternbergh.

44. In regard to claim 21, Farwig discloses that all the coatings are vacuum-deposited after lamination (col. 6, lines 3-17). Also, Farwig discloses that the dielectric mirror is coated directly on a lens element (Fig. 1 and col. 5, lines 63-65). However, Farwig does not disclose that the dielectric mirror is a multi-layered dielectric mirror that further comprises at least six thin film layers. Sternbergh discloses that the multi-layered dielectric mirror further comprises at least six thin-film layers (col. 3, line 59) for further reducing light transmission and glare (col. 3, lines 45-67 and col. 4, lines 10-28; also, this is functional language that does not imply an additional structural limitation, MPEP 2114).

Furthermore, Sternbergh teaches that a structure of at least nine alternating layers is preferred because it optimizes UV blocking (col. 3, lines 59-60 and col. 4, lines 30-36). Therefore, it would have been obvious to one of ordinary skill in the art to construct the dielectric mirror of the Farwig in view of Johansen sunglass lens by vacuum depositing at least six thin film layers atop the first layer of ophthalmic plastic, as disclosed by Sternbergh, because more than six layers provide optimum UV blocking, as taught by Sternbergh.

45. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Farwig in view of Johansen and Sternbergh and further in view of Evans et al. Farwig does not disclose that the polarizing filter layer is molecularly bonded between said first and second CR-39® lenses (as understood) to avoid haze and delamination. Evans discloses a lens in which a polarizing layer is molecularly (understood as chemically) bonded (col. 5, lines 1-53) between first and second ophthalmic plastic layers (col. 2, lines 51-54). Furthermore, Evans teaches that the molecular bonding has the advantage of improving adhesion (col. 1, lines 61-67, col. 2, lines 22-32, and col. 5, lines 1-7 and 17-20). Therefore, it would have been obvious to one of ordinary skill in the art to molecularly bond the polarizing layer between the first and second CR-39® lenses of the Farwig in view Johansen and Sternbergh lens because the molecular bonding would improve adhesion, as taught by Evans.

***Conclusion***

46. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dillon discloses a sunglass lens (Figs. 2 and 3 and col. 2, line 30) that has a dielectric

mirror (reflective medium 4, col. 13, lines 10-35, especially lines 25-27) a first layer ophthalmic plastic (the first layer labeled 3; col. 8, lines 56-57); a second layer ophthalmic plastic (the second layer labeled 3; col. 8, lines 56-57); and a polarizing layer (polarized film 18; col. 8, lines 59-60) encapsulated between the first and second plastic layers (Figs. 2 and 3). King (5,054,902) and Ace (4,679,918, col. 17) disclose lenses that meet some limitations.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah A. Raizen whose telephone number is (703) 305-7940. The examiner can normally be reached on Monday-Friday, from 8:30 a.m. to 5 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on (703) 308-4883. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

dar

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